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(54) Title: INSULIN CRYSTALS FOR PULMONARY ADMINISTRATION

(57) Abstract: The invention relates to crystals comprising insulin, an insulin analog, derivatives of insulin or derivatives of an insulin analog, and a divalent metal cation, to processes for preparing such crystals, and to methods of treating diabetes or hyperglycemia comprising administering the crystals via the pulmonary route to a patient in need thereof to control blood glucose. Crystals having a volume mean spherical equivalent diameter of 1 to 5 microns are obtained. The crystal size may be controlled so that the crystals may be administered advantageously by inhalation through the mouth, deposited in the deep lung, and absorbed there over a protracted period of time, to provide control of blood glucose primarily between meals and overnight.

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